

REMARKS

The above amendment is made in response to the Office action of April 10, 2003.

Claim 1 has been amended. Claims 1-13 are pending in the present application. The Examiner's indication that claims 6 and 12-13 are allowed is gratefully acknowledged. The Examiner's reconsideration is respectfully requested in view of the above amendment and the following remarks.

Claims 1-5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over South et al. (U.S. Patent No. 4,771,396) in view of Fujii et al. (U.S. Patent No. 5,790,440). The rejection is respectfully traversed.

Amended claim 1 recites:

1. (Currently Amended): An echo canceler, comprising:
 - at least one adaptive filter for extracting at least one echo signal from speech signals and for calculating at least one power value of the speech signals;
 - at least one subtraction means for generating at least one error signal by subtracting the at least one echo signal from the speech signals; and
 - at least one update control means for selectively updating at least one filter coefficient of the at least one adaptive filter in response to the at least one power value and the at least one error signal.

The Office action cites col. 21, line 61 – col. 22, line 22 of Fujii et al. as disclosing “an update control means for updating at least one filter coefficient of the at least one adaptive filter in response to the at least one power value and the at least one error signal.”

Amended claim 1 now reads, in part, “at least one update control means for selectively updating at least one filter coefficient of the at least one adaptive filter in response to the at least one power value and the at least one error signal.” An object of the present invention is to save time by eliminating unnecessary updates of the filter coefficient. The present invention achieves this object by “selectively updating at least one filter coefficient.” The update control means, as described in claim 1 of the present application, decides whether to

update a filter coefficient “in response to the at least one power value and the at least one error signal.” Fujii et al. discloses an apparatus for adjusting filter coefficients using coefficient adjusting amounts, but fails to disclose selectively adjusting filter coefficients. South et al. also fails to disclose selectively adjusting filter coefficients. Accordingly, even assuming that South et al. and Fujii et al. can be properly combined, South et al. in view of Fujii et al. do not disclose at least “at least one update control means for selectively updating at least one filter coefficient of the at least one adaptive filter in response to the at least one power value and the at least one error signal.”

Accordingly, claim 1 is believed to be patentably distinct and nonobvious in view of South et al. and Fujii et al. Dependent claims 2-5 are believed to be allowable for at least the reasons given for claim 1. Withdrawal of the rejection of claims 1-5 under 35 U.S.C. §103(a) is respectfully requested.

Claims 7-11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over South et al. (U.S. Patent No. 4,771,396) in view of Fujii et al. (U.S. Patent No. 5,790,440), and further in view of Muraoka (U.S. Patent No. 6,185,301). The rejection is respectfully traversed.

Claim 7 recites:

7. An echo canceler, comprising:
at least one adaptive filter for extracting at least one echo signal from speech signals and for calculating at least one power value of the speech signals;
a selective means for generating at least one selective signal in response to the at least one power value of the speech signals;
at least one subtraction means for generating at least one error signal by subtracting the at least one echo signal from the speech signals; and
at least one update control means for updating at least one filter coefficient of the at least one adaptive filter in response to the at least one power value and the at least one error signal.

The Office Action cites Figure 5 and col. 6, line 46 – col. 7, line 15 of Muraoka as disclosing “a selective means for generating at least one selective signal in response to the at least one power value of the speech signals.” Muraoka fails to disclose or teach such limitations.

Muraoka fails to disclose “a selective means for generating at least one selective signal.” Muraoka discloses the generation and/or use of several signals, including a transmitting signal S, a received signal X, and two error signals. Muraoka does not disclose a “means for generating at least one selective signal.”

Because Muraoka fails to disclose “a selective means for generating at least one selective signal,” it follows that “a selective means for generating at least one selective signal in response to the at least one power value of the speech signals” is not disclosed. Furthermore, Muraoka fails to disclose the use of “at least one power value” in updating tap coefficients. Accordingly, even if Muraoka did disclose a “means for generating at least one selective signal,” which it does not, it still would fail to disclose doing so “in response to the at least one power value of the speech signals.”

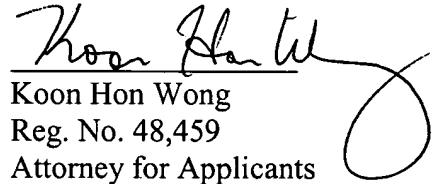
Because Muraoka fails to disclose “a selective means for generating at least one selective signal,” it follows that “at least one update control means for updating at least one filter coefficient of the at least one adaptive filter when the at least one selective signal provided from the selective means is activated” is not disclosed. Applicant respectfully submits that the piecemeal collection of elements from several references to arrive at the claimed invention is improper. However, the combination does not disclose at least “a selective means for generating at least one selective signal.”

Accordingly, claim 7 is believed to be patentably distinct and nonobvious in view of South et al., Fujii et al., and Muraoka. Dependent claims 8-11 are believed to be allowable for at least the reasons given for claim 7. Withdrawal of the rejection of claims 7-11 under 35 U.S.C. §103(a) is respectfully requested.

In view of the foregoing remarks, it is respectfully submitted that all the claims now pending in the application are in condition for allowance. Early and favorable reconsideration is respectfully requested.

Respectfully submitted,

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